

Applicant: Ellsworth et al.
Serial No.: 10/755,768
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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-14. (Cancelled)

15. (New) A bicycle, comprising:

(i) a main frame comprising a seat tube and a bottom bracket configured to receive a pedal assembly; and

(ii) a rear wheel suspension system coupled to the main frame, the rear wheel suspension system comprising:

(a) an upper rocker arm comprising a forward end and a rearward end, the upper rocker arm being pivotably attached to the main frame with the forward end of the upper rocker arm located in front of the seat tube;

(b) a lower rocker arm comprising a forward end and a rearward end, the lower rocker arm being pivotably attached to the main frame above the bottom bracket with the forward end of the lower rocker arm located in front of the seat tube; and

(c) a seat stay comprising an upper end and a lower end portion, the seat stay being pivotably attached to the rearward end of the lower rocker arm at the lower end portion of the seat stay, and pivotably attached to the rearward end of the upper rocker arm at a location between the upper end and lower end portion of the seat stay.

16. (New) The bicycle of claim 15, wherein main frame further comprises a top tube, and the seat tube is a unitary tube extending from the top tube to the bottom bracket.

17. (New) The bicycle of claim 16, wherein the seat tube is substantially linear.

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18. (New) The bicycle of claim 15, wherein the upper rocker arm is pivotably attached to the seat tube at a location between the forward end and the rearward end of the upper rocker arm.
19. (New) The bicycle of claim 15, wherein the upper rocker arm is substantially linear from the forward end to the rearward end.
20. (New) The bicycle of claim 15, wherein the forward end of the lower rocker arm is configured to be attached to a shock absorber device.
21. (New) The bicycle of claim 15, wherein the lower end portion of the seat stay comprises a receptacle to receive a rear wheel axle.
22. (New) The bicycle of claim 15, further comprising a shock absorber device attached to the forward end of the upper rocker arm and the forward end of the lower rocker arm.
23. (New) The bicycle of claim 15, further comprising a break device attached to the seat stay, and the seat stay being oriented with respect to a rear wheel of the bicycle so that breaking forces are substantially perpendicular to a straight line passing through the rearward ends of the upper and lower rocker arms.
24. (New) The bicycle of claim 15, wherein the rear wheel suspension system is configured to track a chain torque line with an instant center, wherein the instant center is defined as a point at the intersection of a first imaginary straight line drawn through rearward and forward pivot points of the upper rocker arm, and a second imaginary straight line drawn through rearward and forward pivot points of the lower rocker arm, and wherein the instant center is located in front of the forward pivot points of the upper and lower rocker arms when the suspension is not compressed, and wherein the chain torque line is defined as a parallel line extending along the tension side of a chain while the chain is positioned on chain sprockets of the bicycle.

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25. (New) A rear wheel suspension system for a bicycle, comprising

(i) an upper rocker arm comprising a forward end, a rearward end, and a main frame attachment element located between the forward end and the rearward end of the upper rocker arm;

(ii) a lower rocker arm comprising a forward end, a rearward end, and a main frame attachment element located between the forward end and the rearward end of the lower rocker arm; and

(iii) a seat stay comprising an upper end and a lower end portion, the seat stay being pivotably attached to the rearward end of the lower rocker arm at the lower end portion of the seat stay, and pivotably attached to the rearward end of the upper rocker arm at a location between the upper end and lower end of the seat stay.

26. (New) The rear wheel suspension system of claim 25, wherein the upper rocker arm main frame attachment element is located closer to the forward end of the upper rocker arm than the rearward end of the upper rocker arm.

27. (New) The rear wheel suspension system of claim 25, wherein the upper rocker arm is substantially linear from the forward end to the rearward end.

28. (New) The rear wheel suspension system of claim 25, wherein the forward end of the lower rocker arm is configured to be attached to a shock absorber device when the suspension system is attached to a bicycle.

29. (New) The rear wheel suspension system of claim 25, wherein the lower end portion of the seat stay comprises a receptacle to receive a rear wheel axle of a bicycle.

30. (New) The rear wheel suspension system of claim 25, further comprising a shock absorber device attached to the forward end of the upper rocker arm and the forward end of the lower rocker arm.